Mode Choice

The mode choice step involves dividing the trips established in trip generation and trip distribution between modes of travel to make the trips. The majority of small urban planning areas within North Carolina rely predominantly on the area roadways to make trips. Consequently, all of the trips for the planning area were committed to the roadway network for trip assignment.

Trip Assignment, Calibration & Validation

Trip assignment involves assigning all trips onto the road network based on the trip distribution results. The trips were assigned on the roadways using logical trip travel patterns and planning area knowledge.

Calibration & validation is the process in model development that applies accuracy and precision to the modeled generated traffic, helping to ensure that the traffic closely replicates the collected traffic counts. Calibration of the model involves iterations in which incremental adjustments are made either in the trip generation, the trip distribution or the road network in order to ensure that the model more accurately reflects the real world conditions it represents. The general rule of thumb is that the trips assigned on the model should fall between 90 to 110% of the actual ground counts on the network roadways. Validation of the model involves performing accuracy checks throughout the development of the model.

Some of the accuracy checks for this model were:
- verification of collected data;
- tracking specific adjustments and why they were needed;
- double-checking mathematical calculations; and
- following trips through all of the steps to ensure that none were accidentally added or subtracted from the model.

After several iterations, the assigned model volumes were found to be within acceptable limits for calibration.